

# Guideline

## Banana Industry Biosecurity Guideline

Version: 2.0

### 1 Purpose

The Banana Industry Biosecurity Guideline is a Guideline established under the *Biosecurity Act 2014* (the Act).

The purpose of the Guideline is to provide guidance to persons who cultivate bananas on discharging their general biosecurity obligation (GBO). It provides specific guidance in relation to:

- banana planting material;
- banana yellow Sigatoka and leaf speckle (leaf spot);
- *banana bunchy top virus*; and
- pest bananas.

The Guideline has been developed in consultation with the Australian Banana Growers' Council.

### 2 Approval and Availability

The Guideline has been approved by the Chief Executive, of the Department of Agriculture and Fisheries (the Department) as required by section 107 of the Act.

The Guideline is available at [www.daf.qld.gov.au](http://www.daf.qld.gov.au) and at the head office of the Department, as required by section 108 of the Act.

### 3 Application

Section 109 of the Act provides that the Guideline may be taken into account when considering whether a person has or has not discharged their GBO. The GBO is defined in section 23 of the Act. The GBO means that you will need to:

- take all reasonable and practical steps to prevent or minimise each biosecurity risk,
- minimise the likelihood of the risk causing a biosecurity event and limit the consequences of such an event, and
- prevent or minimise the adverse effects the risk could have and refrain from doing anything that might exacerbate the adverse effects.

Significant penalties apply for breaches of the GBO; up to 3000 penalty units or 3 years imprisonment for an aggravated offence, of 500 penalty units for a standard breach.<sup>1</sup>

Further information is available at [daf.qld.gov.au](http://daf.qld.gov.au) or by referring to the [legislation](#).

The Department will take into account compliance with this Guideline in determining whether a person's GBO has been breached prior to pursuing enforcement action.

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<sup>1</sup> Refer to section 24 of the Act for more details.

However, it will not be automatically presumed that a person who has failed to follow the Guideline has breached their GBO or otherwise failed to comply with a provision of the Act.

The Guideline does not cover all that a banana grower may need to do to discharge their GBO.

#### **4 Guideline: Using clean banana planting material**

Using clean banana planting material is a fundamental component of good biosecurity practice. As such, growers of banana plants should source banana planting material that has been produced under a clean planting scheme or an equivalent measure. This is explained below.

The best protection against moving and spreading serious diseases onto, or off, your farm is to use banana planting material produced from disease indexed tissue culture and available from production nurseries (including tissue culture laboratories) accredited under an approved certification program.

Tissue cultured banana plants may not always be practical or possible in some situations. Where it is not possible to use banana plants from tissue culture, bits and suckers can be sourced from the banana grower's own contiguous parcel of land for planting on the same parcel of land. Growers may also choose to share bits and suckers between parcels of land that are farmed as a single production unit and are free of diseases. That is, parcels of land that have shared machinery and vehicles.

It is recommended that if bits and suckers are moved from one paddock or property and replanted in another paddock or property that a record is kept of the source location of the material, the date of the movement and the location of planting. This is a simple yet very effective biosecurity practice that can be used to trace the spread of pests and diseases. If a pest or disease is detected, such records may enable a parcel by parcel approach to be taken rather than whole-of-property controls being imposed.

The use of bits and suckers sourced from other growers or properties in different production areas (even if they are known to or owned by the grower) is not recommended as it is a high risk biosecurity practice and increases the risk of spreading pests and diseases between farms and across the growing districts. Using bits and suckers sourced from other farms may mean that the grower is at risk of not meeting their GBO.

#### **5 Guideline: Managing banana yellow Sigatoka and leaf speckle (leaf spot)**

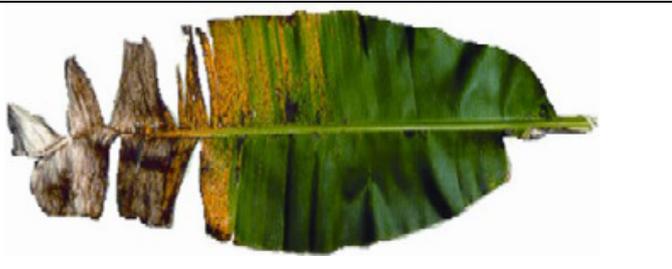
This guideline is provided to assist growers to manage leafspot infestations in the Northern Banana Biosecurity Zone.<sup>2</sup>

Both yellow Sigatoka and leaf speckle are commonly referred to as "leaf spot" (refer to section 8 of this Guideline). These are established foliar diseases of banana plants and are serious pests of production in the high humidity areas of north Queensland. If leaf spot is left uncontrolled, it can lead to significant economic losses caused by a reduced yield, premature ripening and reduced market access. Importantly, it is highly likely to affect the productivity of neighbouring plantations if it is left untreated.

The images below provide an indication of leaf spot infection on banana leaves at different infestation levels. Action to manage leaf spot should be taken if a leaf spot infestation of more than five percent is present on any leaf on a property within the Northern Banana Biosecurity Zone.

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<sup>2</sup> The Northern Banana Biosecurity Zone is established under the *Biosecurity Regulation 2016*. A map of the Zone is available on the Department's website.

5% of leaf area infested	
15% of leaf area infested	
30% of leaf area infested	

### **Measures for managing leafspot**

A banana grower has a responsibility to take reasonable and practical measures to prevent or minimise the biosecurity risk caused by leaf spot. Grower action is required to satisfy their GBO.

If the banana plant is grown on land in the Northern Banana Biosecurity Zone, a banana grower should treat each **infested leaf** by removing it from the plant and leaving it to rot on the surface of the soil.

For information on integrated management of leaf spot, refer to the National Banana Development and Extension Program Factsheet- **Australian banana best practice: top ways to manage banana fungicide resistance** available at <http://horticulture.com.au/wp-content/uploads/2017/09/Managing-fungicide-resistance-fact-sheet.pdf>

For information on banana fungicide resistance management strategies for far north Queensland; refer to Croplife Australia <http://www.croplife.org.au/resistance-strategy/2015-banana-yellow-sigatoka-40/>

## **6 Guideline: Control of *Banana bunchy top virus* (BBTV)**

*Banana bunchy top virus* (BBTV) is established as restricted matter under the Act. This imposes an obligation on persons to report the presence of BBTV to an authorised officer and to take reasonable action to minimise the biosecurity risk it poses.

The steps below in this guideline provide reasonable action that a person could take to control BBTV to minimise the biosecurity risk posed by the presence of a BBTV infected plant.

BBTV can be controlled by promptly treating the banana aphid infestation and then destroying the infected banana plant.

The first step is to treat the banana aphids to stop them spreading the virus from infected to healthy banana plants. Do not destroy the infected banana plant first as the banana aphids will fly off to the healthy plants and spread the virus.

Chemical treatments in Step 1 and 2 below should be applied according to APVMA Permit number 14850, which is available on the APVMA website [www.apvma.gov.au](http://www.apvma.gov.au).

### Step 1 Treat banana aphids

Banana aphids can be treated by either:

- injecting the banana plants with the insecticide, imidacloprid; or
- spraying the entire banana plant with paraffinic oil.

All banana plants within five metres of the infested banana plant should be treated.

### Step 2 Destroy infected plants

Infected banana plants can be destroyed by either:

- Injecting them with the herbicide glyphosate. The whole banana plant, including the corm, attached suckers and pseudostems, should be treated.
- Removing them from the ground. The pseudostems should be split down the middle and the corms cut into pieces no more than five centimetres in diameter.

Any regrowth that occurs from infected plants should be immediately destroyed using one of these methods.

## 7 Guideline: Pest bananas

Banana plants that produce seed and can become pests or harbour banana pests and diseases, may threaten commercial banana production. As such, growers should not plant or cultivate pest banana plants that can produce viable seed,<sup>3</sup> including wild ancestors of *Musa* and *Ensete* species. You may be in breach of your GBO if you plant these varieties.

## 8 Abbreviations, acronyms and definitions

Term/acronym	Definition
Chief Executive	Director-General of the Queensland Department of Agriculture and Fisheries
Act	The Queensland <i>Biosecurity Act 2014</i>
APVMA	Australian Pesticides and Veterinary Medicines Authority
General biosecurity obligation	The GBO means that you will need to: <ul style="list-style-type: none"> <li>• take all reasonable and practical steps to prevent or minimise each biosecurity risk;</li> </ul>

<sup>3</sup> This does not apply to native seeded bananas

Term/acronym	Definition
	<ul style="list-style-type: none"> <li>• minimise the likelihood of the risk causing a biosecurity event and limit the consequences of such an event; and</li> <li>• prevent or minimise the adverse effects the risk could have and refrain from doing anything that might exacerbate the adverse effects.</li> </ul> <p>Refer to section 23 of the Act for further details.</p>
Grower	Any person who deals with banana plants, and may be the owner or lessee of the property or a person engaged to manage the banana plants.
Infested leaf	A banana plant leaf that is infested with banana yellow Sigatoka or leaf speckle, and the visible symptoms of the infestation of either or both of the pests are showing on more than five percent of the leaf area.
Leaf spot	Either a banana yellow Sigatoka and/or banana leaf speckle.

## 9 Related and reference documents

Biosecurity Regulation: [www.legislation.qld.gov.au](http://www.legislation.qld.gov.au)

Bunchy top virus control: <https://abgc.org.au/projects-resources/banana-bunchy-top-virus>

Integrated control of leaf spot ***Australian banana best practice: top ways to manage banana fungicide resistance*** available at: <http://horticulture.com.au/wp-content/uploads/2017/09/Managing-fungicide-resistance-fact-sheet.pdf>

Croplife Australia: national resistance management strategies ***Banana fungicide resistance management strategies for far north Queensland***. Available at: <http://www.croplife.org.au/resistance-strategy/2015-banana-yellow-sigatoka-40/>

**Revision history**

<b>Version no.</b>	<b>Approval date</b>	<b>Comments</b>
1.0	07/06/2016	Approved by Director General
2.0	25/10/2017	Amendments approved by the delegate of the Chief Executive - Correction to section 4 <i>Using clean planting material</i>
	dd/mm/yyyy	